

## CLAIMS

1. A coating composition for an ink jet recording medium comprising a synthetic resin emulsion having a particle diameter of 100 nm or less and colloidal silica, said synthetic resin emulsion being obtained by, in the presence of (A) an emulsifier containing a radically polymerizable emulsifier having sulfonic acid groups, emulsion-polymerizing (B) an unsaturated monomer having silyl groups and (C) an unsaturated monomer having six-membered rings as side chains and, optionally, (D) another radically polymerizable unsaturated monomer which is copolymerizable with (B) and (C).
2. A coating composition for an ink jet recording medium as claimed in claim 1, which comprises a synthetic resin emulsion obtained through said emulsion-polymerization using, based on the nonvolatile content of the emulsion in each case, 0.5 to 5.0 % by weight of the radically polymerizable emulsifier having sulfonic acid groups contained in (A), 0.1 to 15 % by weight of (B), 59 to 98% by weight of (C) and 0 to 39 % by weight of (D).
3. A coating composition for an ink jet recording medium as claimed in claim 1 or 2, wherein (C) is at least one monomer selected from styrene,  $\alpha$ -methylstyrene, cyclohexylacrylate and cyclohexylmethacrylate.
4. A coating composition for an ink jet recording medium as claimed in any one of claims 1 to 3, wherein (D) is an alkyl (meth)acrylate and an unsaturated carboxylic acid.
5. A coating composition for an ink jet recording medium as claimed in any one

of claims 1 to 4, wherein the particle diameter of the synthetic resin emulsion is 80 nm or less, preferably 50 nm or less.

6. A coating composition for an ink jet recording medium as claimed in any one of claims 1 to 5, wherein the particle diameter of the colloidal silica is 100 nm or less, preferably 50 nm or less.

7. A coating composition for an ink jet recording medium as claimed in any one of claims 1 to 6, wherein the amount of colloidal silica incorporated is 10 to 900 % by weight relative to the synthetic resin emulsion based on the nonvolatile content.

8. An ink jet recording medium, wherein an ink fixation layer or layers comprising a pigment, a binder and a cationic ink fixation agent is or are provided on either or both sides of a recording medium substrate, and a coating composition for an ink jet recording medium as claimed in any one of claims 1 to 7 is then applied onto the ink fixation layers or onto either one of the layers.

9. An ink jet recording medium, wherein a coating composition for an ink jet recording medium as claimed in any one of claims 1 to 7 is applied onto a substrate which, in the inside, contains a pigment and a cationic fixation agent.